

REMARKS/ARGUMENTS

Claims 1-2, 4-9, 13, 15-18 and 19-23 are active.

Claim 1 is amended to define the four layers provided in the antireflection coating where the first and third layers comprise a doped mixed oxide of Sn and Zn. Support for these modifications is found in [0044] in the PG-PUB version of the specification.

Claim 1 is also amended to incorporate Claim 14.

The remaining changes are for clarity and to remove the items noted at page w of the Action in the rejection under 35 USC 112, second paragraph. Thus, that rejection is no longer applicable.

No new matter is added.

The claims here are to a transparent (e.g., glass) substrate with an antireflection laminate including 4 layers with the first and third layers having refractive indices of 1.8 to 2.2 and the second and fourth having an R_i of 1.35 and 1.65. Each layer is also defined by a particular geometrical thickness and as noted above, each layer is defined by specific oxides that are comprised in those layers.

The main focus of this application relates to antireflection coatings for windows in buildings, display cabinets, etc.

In the Action, the Examiner has again rejected certain claims as being the same as what was previously described in FR 2,800,998 (citing to the U.S. equivalent U.S. 6,924,037). There is also an obviousness-type double patenting rejection citing to U.S. patent no. 6,924,037.

Joret describes a four-layer laminate antireflection coating including a variety of oxides (see the paragraph bridging col. 4-5).

In col., 4, lines 32-38, Joret describes that “The materials most suitable for forming the first and/or the third layer, those having a high index, are based on one or more metal oxides chosen from zinc oxide ZnO, tin oxide SnO₂ and zirconium oxide ZrO₂. They may also be based on one or more nitrides chosen from silicon nitride Si₃N₄ and aluminium nitride AlN.”

In Examples 1-13, the four layers include SnO₂, TiO₂ and Si₃N₄ (col. 9-13).

Joret neither describes or suggests the specific arrangement of layers in which the first and third layers comprise a doped mixed oxide of Sn and Zn; and the second and fourth layers comprise SiO₂. Joret does not describe this arrangement in the claims.

There are two teachings for doped oxide in Joret but not in the first and third layers of Sn/Zn. That is in col. 5, lines 39-60, doped oxides are mentioned but only for a coating of the other face of the glass substrate opposite the multilayer stack. Also, in col. 8, lines 11-23, doped silicon is described as a target for making SiO₂ and Si₃N₄.

Further, one would not have modified Joret to achieve what is claimed. The stack disclosed in Joret ‘s reference is designed for reducing the refection with a angle of incidence of 60° (see also the colorimetric values a*, b*, L) for automotive application, 60° is approximately the angle between the windshield and the car body. It is understood in the art that normal incidence means that the user is in front of the coating glass and that user looks at the glass with an angle of 90° in comparison with the substrate. This is the typical normal situation when an user is in front of a coating glass for building (the glass is positioned vertically) and the antireflective coating is directly in line with the eyes of the user. An angle of incidence of 60° is the typical for automotive application. The windshield has an angle of 60 ° in relation to the car body. The user sees the coating windshield with an angle which is not “normal” (an angle of 90°) and the color box (the optical properties of the antireflective

U.S. application serial no. 10/519,098
Reply to Official Action of November 20, 2008

coating, the value of a*, b*) is designed for this specific angle of angle for an automotive application.

In one aspect of the claimed invention, the stack of layers is designed for a normal incidence and the inventors obtain the best result in term of RL% and value of the color box (value of a*, b*, L) at this normal incidence angle.

Accordingly, the claims are not anticipated by what is described in Joret nor would the claims have been obvious. Withdrawal of the rejection is requested.

The obviousness-type double patenting rejection citing U.S. patent no. 6,924,037.

None of the claims in that Joret patent specifically describe or suggest the specific arrangement of layers in which the first and third layers comprise a doped mixed oxide of Sn and Zn; and the second and fourth layers comprise SiO₂ as claimed in the present application.

Reconsideration and withdrawal of this rejection is requested.

To the provisional rejection citing application 10/296,410, in accord with MPEP § 822.01, “[i]f the "provisional" double patenting rejection in one application is the only rejection remaining in that application, the examiner should then withdraw that rejection and permit the application to issue as a patent, thereby converting the "provisional" double patenting rejection in the other application(s) into a double patenting rejection at the time the one application issues as a patent.” Such action is requested here.

U.S. application serial no. 10/519,098
Reply to Official Action of November 20, 2008

A Notice of Allowance for all pending claims is kindly requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)



Daniel S. Pereira
Registration No. 45,518